

## REMARKS

Claims 1-14 and 17-23 were previously pending in this patent application. Claims 1-14 and 17-23 stand rejected. Herein, Claims 1, 7, and 14 have been amended. Support for the amendments may be found at, but is not limited to, pages 9-12 and 17 of the specification. Accordingly, after this Amendment and Response After Final Action, Claims 1-14 and 17-23 remain pending in this patent application. Further examination and reconsideration in view of the claims, remarks, and arguments set forth below is respectfully requested.

### 35 U.S.C. Section 103(a) Rejections

Claims 1-14 and 17-23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Marik, U.S. Patent No. 5,903,718 (hereafter Marik) and in view of Grunert, U.S. Patent No. 6,366,878 (hereafter Grunert). These rejections are respectfully traversed.

Focusing on Independent Claim 1, it is respectfully submitted that Independent Claim 1 is patentable over the combination of Marik and Grunert because the combination of Marik and Grunert fails to disclose all the claim limitations of Independent Claim 1. It is admitted at page 9 of the Office Action that Marik does not disclose a virtual microcontroller operating in lock-step synchronization with the microcontroller, as in Independent Claim 1. Moreover, Grunert is referenced as teaching a virtual microcontroller operating in lock-step synchronization with the microcontroller. However, Independent Claim 1 recites the limitations, “a microcontroller”, and, “a virtual microcontroller, which is not identical to and emulates operation of the microcontroller,” (emphasis added). In contrast, Grunert states, “the invention, for in circuit emulation comprises two

identical microcontrollers," (emphasis added) at Col. 1, lines 48-49, "first and second identical microcontrollers (2, 3)," (emphasis added) at Col. 2, line 1, and "two microcontrollers 2, 3 of identical design," (emphasis added) at Col. 4, lines 27-28. Further, it is admitted at page 13 of the Office Action that Grunert teaches that the microcontrollers are identical. This is clearly distinguishable from Independent Claim 1, which recites a virtual microcontroller which is not identical to and emulates operation of the microcontroller.

As discussed above, the combination of Marik and Grunert does not disclose all the claim limitations of Independent Claim 1. Therefore, it is respectfully submitted that Independent Claim 1 is patentable over the combination of Marik and Grunert and is in condition for allowance.

Dependent Claims 2-6 and 21 are dependent on allowable Independent Claim 1, which is allowable over the combination of Marik and Grunert. Hence, it is respectfully submitted that Dependent Claims 2-6 and 21 are patentable over the combination of Marik and Grunert for the reasons discussed above.

Independent Claims 7 and 14 recite limitations similar to limitations of Independent Claim 1. Specifically, Independent Claims 7 and 14 recite the limitation, "a virtual controller, which is not identical to and emulates operation of the microcontroller," as in Independent Claim 1. As discussed above, the combination of Marik and Grunert fails to disclose this limitation. Therefore, Independent Claims 7 and 14 are patentable over the combination of Marik and Grunert and are in condition for allowance for the reasons discussed in connection with Independent Claim 1.



Dependent Claims 8-13 and 22 and Dependent Claims 17-20 and 23 are dependent on allowable Independent Claims 7 and 14, respectively, which are allowable over the combination of Marik and Grunert. Hence, it is respectfully submitted that Dependent Claims 8-13 and 22 and Dependent Claims 17-20 and 23 are patentable over the combination of Marik and Grunert for the reasons discussed above.



### CONCLUSION

It is respectfully submitted that the above claims, arguments and remarks overcome all rejections and objections. All remaining claims (Claims 1-14 and 17-23) are neither anticipated nor obvious in view of the cited references. For at least the above-presented reasons, it is respectfully submitted that all remaining claims (Claims 1-14 and 17-23) are in condition for allowance.

The Examiner is urged to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

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